

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1. **(Currently amended)** A composite biological device comprising a biostructure comprising at least one ~~metabolically active~~ biological material as an integral imbedded component thereof, wherein at least a portion of the biostructure comprises a nonporous latex-derived material, and wherein the biological material is metabolically active or becomes metabolically active upon hydration.
2. **(Currently amended)** A composite biological device comprising a biostructure comprising at least one biological material as an integral component thereof, wherein at least a portion of the biostructure comprises a nonporous latex-derived material, and wherein the biological material is metabolically active or becomes metabolically active upon hydration, and wherein ~~The composite device of claim 1 wherein~~ the biostructure comprises at least one layer comprising a porous latex-derived material and at least one layer comprising a nonporous latex-derived material.
3. **(Currently amended)** A composite biological device comprising a biostructure comprising at least one biological material as an integral component thereof, wherein at least a portion of the biostructure comprises a nonporous latex-derived material, and wherein the biological material is metabolically active or becomes metabolically active upon hydration, and wherein ~~The composite device of claim 1 wherein~~ the nonporous material defines at least one channel or at least one well.

4. **(Currently amended)** A composite biological device comprising a biostructure comprising at least one biological material as an integral component thereof, wherein at least a portion of the biostructure comprises a nonporous latex-derived material, and wherein the biological material is metabolically active or becomes metabolically active upon hydration, and wherein ~~The composite device of claim 1 wherein~~ the biostructure comprises no greater than about 75% by volume biological material.
5. **(Original)** The composite device of claim 4 wherein the biostructure comprises no greater than about 50% by volume biological material.
6. **(Currently amended)** The composite of claim 1 wherein the biological material comprises a prok[[c]]aryote, a euk[[c]]aryote, an archean organism, or a combination thereof.
7. **(Original)** The composite of claim 1 wherein the biological material comprises a mammalian cell, a blood cell, an avian cell, a plant cell, an insect cell, a bacteriophage, a spore, a virus, or a combination thereof.
8. **(Original)** The composite of claim 1 wherein the biological material comprises a recombinant bacterial, yeast, or fungal cell.
9. **(Currently amended)** The composite device of claim 8 wherein the recombinant cell is ~~optimized for desiccation tolerance~~ tolerant.
10. **(Original)** The composite device of claim 1 wherein the biostructure further comprises at least one additive selected from the group of a salt, a pigment, an adsorbent, a liquid crystal, a porosity modifier, a chelating agent, a nutrient, a surfactant, a dye, a photoreactive compound, an antibiotic, an antimicrobial, a bacteriostatic compound, an enzyme, an osmoprotectant, a biopolymer, a metal, a chemical catalyst, and a combination thereof.

11. **(Currently amended)** A composite biological device comprising a biostructure comprising at least one biological material as an integral component thereof, wherein at least a portion of the biostructure comprises a nonporous latex-derived material, and wherein the biological material is metabolically active or becomes metabolically active upon hydration, and wherein ~~The composite device of claim 1 wherein~~ the biostructure further comprises a transmitter incorporated therein.

12. **(Currently amended)** A composite biological device comprising a biostructure comprising at least one biological material as an integral component thereof, wherein at least a portion of the biostructure comprises a nonporous latex-derived material, and wherein the biological material is metabolically active or becomes metabolically active upon hydration, and wherein ~~The composite device of claim 1 wherein~~ the biostructure further comprises a detector incorporated therein.

13. **(Original)** The composite device of claim 12 wherein the detector senses a response emitted from the biological material when in contact with an analyte.

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14. **(Currently amended)** A composite biological device comprising a biostructure comprising at least one biological material as an integral component thereof, wherein at least a portion of the biostructure comprises a nonporous latex-derived material, and wherein the biological material is metabolically active or becomes metabolically active upon hydration, and wherein ~~The composite device of claim 1 wherein~~ the biostructure comprises a cross-linked latex-derived polymer.

15. **(Currently amended)** The composite device of claim 1 wherein the biostructure is non-hydrated and the biological material becomes metabolically active upon hydration.

16. **(Currently amended)** A composite biological device comprising a biostructure comprising at least one biological material as an integral component thereof, wherein at least a portion of the biostructure comprises a nonporous latex-derived material, and wherein the biological material is metabolically active or becomes metabolically active upon hydration, and wherein ~~The composite device of claim 1 wherein~~ the biostructure further comprises a porous latex-derived material.

17. **(Original)** The composite device of claim 16 wherein the porous latex-derived material comprises a mixture of latices.

18. **(Currently amended)** A composite biological device comprising a biostructure comprising at least one biological material as an integral component thereof, wherein at least a portion of the biostructure comprises a nonporous latex-derived material, and wherein the biological material is metabolically active or becomes metabolically active upon hydration, and wherein the composite device further comprises ~~The composite device of claim 1 wherein~~ ~~further comprising~~ a substrate on which the biostructure is disposed.

19. **(Original)** The composite device of claim 18 wherein the substrate comprises a membrane, a filament, or a wire.

D2 20. **(Original)** The composite device of claim 18 wherein the substrate comprises a metal or a polymeric material.

21. **(Original)** The composite device of claim 18 wherein the substrate is an electronic device.

22. **(Currently amended)** A composite biological device comprising a biostructure comprising at least one biological material as an integral component thereof, wherein at least a

portion of the biostructure comprises a nonporous latex-derived material, and wherein the biological material is metabolically active or becomes metabolically active upon hydration, and wherein ~~The composite device of claim 1 wherein~~ the biostructure comprises wires or electrodes.

23. **(Original)** The composite device of claim 1 wherein the biostructure is no greater than about 500 microns thick.

24. **(Original)** The composite device of claim 1 wherein the entire device is no greater than about 500 microns thick.

25-47. **(Canceled)**

48. **(Original)** A method of determining the presence of an analyte in a sample, the method comprises contacting the sample with the device of claim 1, wherein, upon contact with the analyte, the biological material produces a response and emits a signal; and detecting the signal.

49-99. **(Canceled)**

D2 100. **(New)** A method of determining the presence of an analyte in a sample, the method comprises contacting the sample with the device of claim 2, wherein, upon contact with the analyte, the biological material produces a response and emits a signal; and detecting the signal.

101. **(New)** A method of determining the presence of an analyte in a sample, the method comprises contacting the sample with the device of claim 3, wherein, upon contact with the analyte, the biological material produces a response and emits a signal; and detecting the signal.

102. (New) A method of determining the presence of an analyte in a sample, the method comprises contacting the sample with the device of claim 4, wherein, upon contact with the analyte, the biological material produces a response and emits a signal; and detecting the signal.

103. (New) A method of determining the presence of an analyte in a sample, the method comprises contacting the sample with the device of claim 11 wherein, upon contact with the analyte, the biological material produces a response and emits a signal; and detecting the signal.

104. (New) A method of determining the presence of an analyte in a sample, the method comprises contacting the sample with the device of claim 12 wherein, upon contact with the analyte, the biological material produces a response and emits a signal; and detecting the signal.

105. (New) A method of determining the presence of an analyte in a sample, the method comprises contacting the sample with the device of claim 14 wherein, upon contact with the analyte, the biological material produces a response and emits a signal; and detecting the signal.

106. (New) A method of determining the presence of an analyte in a sample, the method comprises contacting the sample with the device of claim 16 wherein, upon contact with the analyte, the biological material produces a response and emits a signal; and detecting the signal.

107. (New) A method of determining the presence of an analyte in a sample, the method comprises contacting the sample with the device of claim 18 wherein, upon contact with the analyte, the biological material produces a response and emits a signal; and detecting the signal.

108. (New) A method of determining the presence of an analyte in a sample, the method comprises contacting the sample with the device of claim 22 wherein, upon contact with the analyte, the biological material produces a response and emits a signal; and detecting the signal.

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Amend

Amendments to the Drawings

The attached sheets of drawings include Replacement Sheets for Figures 1-16.

These sheets replace the original sheets for Figures 1-16.

Attachment: Replacement Sheets